

12/21



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/720,149	12/21/2000	Piet S. Wauters	PHN17.577	7538
7590 10/21/2004			EXAMINER	
PHILIPS ELECTRONICS NORTH AMERICAN CORP 580 WHITE PLAINS RD TARRYTOWN, NY 10591			CHEN, TSE W	
			ART UNIT	PAPER NUMBER
			2116	
DATE MAILED: 10/21/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/720,149

Applicant(s)

WAUTERS ET AL.

Examiner

Tse Chen

Art Unit

2116

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 4 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment dated August 24, 2004

Claims 1-12 are presented for examination.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The rejections of claims 1-2, 5-6, and 8-12 are respectfully maintained and reproduced infra with original part numbers for applicant's convenience.

#### ***Re Claims 1, 5, and 8-9***

4. The following are fact findings for claim 1, 5, and 8-9:

4.1. Endo, U.S. Patent 6363491, discloses a device [USB apparatus 30-32] for use in a data bus system [USB].

4.2. The bus system comprises a host station [Personal Computer 10], a bus cable and the device coupled to the host station via the bus cable [FIG.2; col.1, ll.65-66; USB Ports 20a at host and devices are coupled via bus cables].

4.3. The bus cable comprising a data transfer conductor and power supply conductors for enabling the device to obtain operating power from the bus system via the bus cable [col.1, l.65 to col.2, l.3].

4.4. The device comprises a connector [USB Port 20a] for coupling the device to the bus cable and a control circuit [amplification circuit 20b] coupled to the connector.

4.5. The control circuit is arranged to detect whether a power supply is connected to the power supply conductors [col.3, ll.29-31; col.5, ll.20-21].

Art Unit: 2116

4.6. The control circuit is arranged to start waiting in a slave mode for commands received via the data transfer conductor when connection of the power supply has been detected [col.3, ll.57-67; col.1, l.35, USB apparatuses such as printers or speakers inherently act as slaves for receiving and executing host commands].

4.7. The control circuit switches from one mode to another mode and/or vice versa when absence or presence of power supply is detected [col.3, l.39 to col.4, l.5; the circuit detects repeatedly whether a power supply is connected and switches modes accordingly].

4.8. Endo discloses a USB apparatus comprising a controller [amplification circuit 20b] that is configured to determine whether power is being provided to the apparatus via a USB bus [col.3, ll.29-31; col.5, ll.20-21].

4.9. Endo discloses the controller placing the USB apparatus in a slave mode wherein the function is performed in dependence upon communications received via the USB bus if the power is being provided to the apparatus via the USB bus [col.3, ll.57-67; col.1, l.35].

4.10. 2findit, Internet message

ID<0del2.1054\$MI3.1661@news15.ispnews.com>#1/1, discloses a device [ACS495 speaker] for use in a bus system [USB].

4.11. The device disclosed by 2findit comprises control circuit [inherently, a control circuit is needed for device operations] arranged to start waiting in a slave mode for commands received via the data transfer conductor [control of volume, balance, etc. from PC] or to start operating in a stand-alone mode [channel selectors and rotary

Art Unit: 2116

wheel], dependent on whether or not connection of the power supply [USB cable] has been detected respectively [Standalone Mode Topic Header Section].

4.12. 2findit discloses a USB apparatus [ACS495 speaker] that is configured to provide at least one function [control of volume] that is independent of providing USB functionality [Standalone Mode Topic Header Section; when the host computer is off, USB functionality, such as a command to turn up the volume of a USB apparatus speaker, is absent].

4.13. 2findit discloses the controller placing the USB apparatus in a stand-alone mode [channel selectors and rotary wheel] wherein the function is performed independent of communications received via the USB bus if the power is not being provided to the apparatus via the USB bus [Standalone Mode Topic Header Section].

5. Claims 1, 5, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo in view of 2findit.

6. In re claim 1, Endo discloses each and every limitation of the claim, as set forth in findings 4.1-4.6, except for operating in a stand-alone mode if no connection of the bus power supply has been detected. 2findit teaches a device operable in a stand-alone mode if the bus power supply is not detected [findings 4.7-4.8] in order to provide a way to continue local device operations [controlling volume in a speaker] in the event of a disconnection [e.g., accidental] of the bus-powered cable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the control circuit taught by 2findit in the device disclosed by Endo. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to continue local device operations even with the disconnection of the bus-powered cable.

Art Unit: 2116

7. As to claim 5, see findings 4.5 and 4.7.

8. As to claim 8, see finding 4.1.

9. As to claim 9, Endo discloses each and every limitation of the claim, as set forth in findings 4.8-4.9, except for operating in a stand-alone mode if no connection of the bus power supply has been detected [functioning independently of providing USB functionality]. 2findit teaches a USB apparatus operable in a stand-alone mode if the bus power supply is not detected [findings 4.12-4.13] in order to provide a way to continue local USB apparatus operations [controlling volume in a speaker] even with no power being provided to the apparatus via the USB bus [accidental disconnection of the USB cable or bad cable itself]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the control circuit taught by 2findit in the USB apparatus disclosed by Endo. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to continue local USB apparatus operations even with no power being provided to the apparatus via the USB bus.

***Re Claims 2, 6, and 10-12***

10. The following are fact findings for claims 2, 6, and 10-12:

10.1. Tsai discloses a device [USB device 22] wherein the bus system [USB] comprises a pull circuit [Pull-up Circuit 31] for pulling a potential of the data transfer conductor [data line D-] away from a potential of a first one of the power supply conductors [col.5, ll.15-26; pulling the potential from GND to V2].

10.2. Tsai discloses the bus system [USB] being arranged to detect whether or not the potential of the data transfer conductor [D-] is pulled back to the potential of the first one of the power supply conductors via the bus cable, so as to determine whether the

Art Unit: 2116

device is connected to the bus cable [col.1, ll.58-62; col.4, ll.50-52; col.5, ll.11-14; the signal S1 is sent along D- to indicate plugged/unplugged state of the device].

10.3. Tsai discloses the device comprises a pull back circuit [Pull-up Circuit 31] for pulling back the potential of the data transfer conductor to the potential of the first one of the power supply conductors [col.6, ll.14-16, ll.40-43; the inhibit signal causes the pull-up circuit 31 to pull back the potential of D- to GND, resulting in the unplugging action].

10.4. Tsai discloses the control circuit [resume control unit 27] enabling and disabling the pull back circuit [col.6, ll.9-19].

10.5. Tsai discloses the USB apparatus [USB device 22] wherein the controller [resume control unit 27] is configured to provide one or more signals [S1] to the USB bus to indicate a disconnection [unplugged] of the apparatus from the USB bus when the controller determines that power is not being provided via the USB bus [col.4, ll.38-54; a power interruption analogous to a brief disconnection would trigger the EMS detection unit 26].

10.6. Tsai discloses the controller is configured to provide one or more signals [S1] to the USB bus to indicate a connection [plugged] of the apparatus from the USB bus when the controller determines that power is subsequently being provided via the USB bus [col.4, ll.38-54; S1 signal would indicate plugged status under normal operation which is assumed after a simulated disconnection].

10.7. Tsai discloses the controller is configured to delay [watchdog timer 42 preset time] providing the one or more signals to the USB bus to indicate a connection of the apparatus to the USB bus [col.5, ll.43-56; the preset time has to elapse without timer

Art Unit: 2116

42 being reset to zero due to the likes of a power disconnection before S1 will be sent].

10.8. Endo discloses enabling and disabling the pull circuit [internal circuits should comprise pull circuit as simple as a resistive element to indicate whether attached device is full or low speed]<sup>1</sup> operating in the slave mode and the stand-alone mode respectively [col.4, l.57 to col.5, l.15; the detection of power on bus enables or disables the reference voltage to be outputted to the internal circuits].

10.9. Endo discloses the controller is configured to detect whether power is subsequently provided to the apparatus after determining that power is not being provided via the USB bus [col.3, ll.29-31; col.5, ll.20-21; col.3, l.3 to col.4, l.6; continuous monitoring].

11. Claims 2, 6 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo and 2findit, as applied to claim 1 above, and further in view of Tsai.

12. In re claims 2 and 6, Endo discloses each and every limitation of the claims, as set forth in finding 10.8, except for the details of the pull circuit. Tsai teaches a device with a pull circuit for pulling up or back the potential of the data transfer conductor based on a control circuit [findings 10.1-10.4] to provide real-time information about the state of the bus connection to the host. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the circuits taught by Tsai in the device disclosed by Endo. One of ordinary skill in the art would have been motivated to make such a combination as it provides real-time information that would be of value in resource monitoring environments.

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<sup>1</sup> Philips Semiconductors, "Universal Serial Bus Standard", May 1996, pg.7.



Art Unit: 2116

13. As to claim 10, see finding 10.5.

14. As to claim 11, see findings 10.6 and 10.9.

15. As to claim 12, see finding 10.7.

***Allowable Subject Matter***

Claims 3-4 are allowed.

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the claims are allowable because none of the references, either alone or in combination discloses or renders obvious a bus-powered device with a circuit for pulling-back the potential of a data transfer conductor from one of the power supply conductors with the specific composition and configuration as described in the designated claims.

***Response to Arguments***

Applicant's arguments filed August 24, 2004, have been fully considered but they are not persuasive.

In re claims 1 and 9, Applicant argued in substance that "Endo effectively teaches against providing operational power to a device when power is not being provided by the bus" and that "neither Endo nor 2findit, individually or collectively, teach or suggest operating a device in a stand-alone mode when power is not being provided by the bus."

Regarding Applicant's allegation that Endo "teaches against providing operational power to a device when power is not being provided by the bus", the Examiner respectfully disagrees as the following details.

Art Unit: 2116

Firstly, Endo did not disclose explicitly in the reference against providing power to a device when power is not being provided by the bus. In fact, Endo even stated that low power can be supplied to the device [apparatus] when power is not being provided by the bus [col.4, ll.10-15].

Secondly, what needs to be distinguished is that there are some devices that do not need to be in a stand alone mode when the power is not being provided by the bus because they don't perform stand alone operations [e.g., keyboards without a host computer is useless as a stand alone device]. Endo was particularly concerned about these non-stand-alone devices where the continuing consumption of power by the devices when the host is off would be wasteful [col.1, ll.21-56]. Contrast these non-stand-alone devices with the special Altec Lansing ACS 495 speakers that have the capabilities to operate in stand alone mode [e.g., control the volume without the host being on and supplying power] as the Applicant conceded [pg.8: "... the speakers also operate in a stand alone mode when the ACS 495 program is removed, ..."]. The Altec Lansing ACS 495 speakers perform stand alone operations [e.g., volume control] that would justify the consumption of power even when the host stops supplying power. With emphasis, Endo did not teach against the stand alone devices such as the Altec Lansing ACS 495 speakers.

Regarding Applicant's allegation that "there is no suggestion in the information provided by the manufacturer of the ACS 495 speakers that these speakers are configured to monitor whether or not power is being provided by the USB bus", the device capability to monitor whether or not power is being provided by the USB bus is established in finding 4.5 by Endo of the previous Office Action. The Applicant is reminded that one

Art Unit: 2116

cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding Applicant's allegations that "the USB controls and the buttons on the speakers may merely operate in parallel" and that "the stand alone mode of the ACS 495 appears to be independent of whether power is applied to the USB bus", the Examiner respectfully disagrees as the following details.

Firstly, Applicant has asserted allegations based on conclusions and not facts. The Examiner in the previous Office Action has provided fact findings from the cited references to support all limitations of the claim. Again, the Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

Secondly, the Examiner agrees with the Applicant's concession that "as specifically noted in the referenced help file, the speakers also operate in a stand alone mode when the ACS 495 program is removed." However, the Examiner does not agree that just because the speakers can operate in the stand alone mode in the absence of a software program that the speakers would be independent of whether power is applied to the bus. The speakers could still have a monitor that reacts to both the absence of a software program and power [e.g., disconnection of USB cable or power off of computer as disclosed in the help file].

Regarding Applicant's allegations that "because Endo teaches to power down devices when the USB bus power is removed, ... a combination of Endo and 2findit would not be suggested to one of ordinary skill in the art", the fact that applicant has

Art Unit: 2116

recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Additionally, as discussed above, Endo teaches to power down non-stand-alone devices, not all devices.

Regarding Applicant's allegations that "adding the complexity of Endo to the device of 2findit would not be suggested to one of ordinary skill in the art" because "2findit provides a stand alone mode that is apparently independent of the power provided by the USB bus", the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner noted in the previous Office Action [which the Applicant did not dispute] that one of ordinary skill in the art would have been motivated to make such a combination as it provides a way to continue local device operations even with the disconnection of the bus powered cable. The motivation to have continual operation of device operations in the event of power disruptions or the like is a well-known knowledge generally available to one of ordinary skill in the art. Furthermore, as discussed above, the help file of 2findit did not disclose that the stand alone mode is entirely independent of the power provided by the USB bus.

Therefore, as demonstrated above and in reference to the rejections of the associated claims in the previous Office Action, Applicant's arguments that "Endo

Art Unit: 2116

effectively teaches against providing operational power to a device when power is not being provided by the bus” and that “neither Endo nor Tsai, individually or collectively, teach or suggest operating a device in a stand-alone mode when power is not being provided by the bus” are not persuasive.

In re claims 2, 6, and 10-11 [Applicant did not argue claim 12 separately], Applicant argued in substance that “a combination of Endo and Tsai is likely to render the combination unsuitable for its intended purpose” and “neither Endo nor Tsai, individually, or collectively, teach or suggest controlling a pull-circuit based on whether power is being provided by a bus system”.

Regarding Applicant’s assertion that “it is unclear what real-time information would be provided by embodying Tsai’s invention to Endo’s hub”, the Examiner points to fact findings 10.2, 10.5, 10.6, and 10.7 of the outstanding Office Action where the real time information [S1] regarding the state of connection or disconnection of the resources are explicitly stated.

Regarding Applicant’s allegations that “it is unclear ... whether such a combination would perform its intended function” or that “a combination of Endo and Tsai would produce indeterminate results and likely render the combination unsuitable for its intended purpose”, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the instant case, one with ordinary skill in the art could

Art Unit: 2116

have incorporated a buffer or other suitable circuit configuration to deal with “the effects produced by pulling the data line low and then high at the USB hub” in order to obtain the claimed device or apparatus.

Regarding Applicant’s allegations that “Tsai specifically teaches that the pull-circuit is controlled by the amount of EM interference on the data lines”, the Examiner points to fact finding 10.5 in the previous Office Action with the stipulation that “a power interruption analogous to a brief disconnection would trigger the EMS detection unit” which the Applicant did not refute. Thus, Tsai does teach that the control of the pull circuit is “dependent upon whether power is provided by the bus system”.

Therefore, as demonstrated above and in reference to the rejections of the associated claims in the previous Office Action, Applicant’s arguments that “a combination of Endo and Tsai is likely to render the combination unsuitable for its intended purpose” and “neither Endo nor Tsai, individually, or collectively, teach or suggest controlling a pull-circuit based on whether power is being provided by a bus system” are not persuasive.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2116

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (571) 272-3672.

The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tse Chen  
September 30, 2004

  
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